

# Claims

- [c1] A spiral stair apparatus comprising individual steps that are not permanently fixed and can be moved either vertically, horizontally, or angularly from their in-use position.
- [c2] An apparatus as described in claim 1 also comprising a permanently fixed center pole.
- [c3] An apparatus as described in claim 2 also comprising a center pole having integral longitudinal tracks along which individual steps are allowed to move.
- [c4] An apparatus as described in claim 2 also comprising a center pole having one track that encircles the center pole as it extends along the length of the pole and serves to facilitate attachment between the center pole and all steps with each step, with the possible exception of the uppermost step, being moveable along the track such that the total of the steps can be raised or lowered with each step being attached to the step immediately above and below by some mechanical means, preferably a metal cable, that would prevent the spacing

between steps from exceeding a predetermined limit.

- [c5] An apparatus as described in claim 2 also comprising a stationary and permanently fixed center pole along which individual steps can translate vertically.
- [c6] An apparatus as described in claim 2 also comprising a stationary and permanently fixed center pole about which individual steps can be rotated in order decrease the swept area occupied by the spiral stair while not in use.
- [c7] An apparatus as described in claim 2 also comprising a stationary and permanently fixed center pole and comprising individual steps that are hinged in relation to the center pole in such a way as to allow the individual steps to be folded either up or down so they lay parallel to the center pole when not in use.
- [c8] An apparatus as described in claim 1 also comprising a telescoping center pole that can be collapsed by some amount when the stair is not in use.
- [c9] A spiral stair comprising an apparatus that can be retracted and stored in a location or configuration that is different than the location or configuration during use, for example re-

tracting into the ceiling when used as an attic stair.

[c10] An apparatus as described in claim 2 also comprising individual steps that are shaped such that the collapsed configuration resembles a pie, creating a new flat surface comprising the individual steps laying within a single plane.

[c11] An apparatus comprising a spiral stair made in the common fashion that can be translated vertically, preferably the stair would be used for attic access and raised into said attic as a permanently assembled spiral stair unit when not in use.

[c12] An apparatus as described in claim 1 also comprising an automatic electronic or other suitably powered mechanism to raise and lower the individual steps.